Abstract

Objectives
We aimed to determine the sentinel lymph node detection rates, accuracy in predicting the status of lymph node metastasis, and if pathologic ultrastaging improves the detection of micrometastases and isolated tumor cells at the time of primary surgery for cervical cancer.

Methods
A prospective, non-randomized study of women with early-stage (FIGO stage IA1 with lymphovascular space involvement “IIA) cervical carcinoma was conducted from June 2003 to August 2009. All patients underwent an intraoperative intracervical blue dye injection. Patients who underwent a preoperative lymphoscintigraphy received a 99mTc solution.
Injection. Patients who underwent a preoperative lymphoscintigraphy received a 99mTc sulfur colloid injection in addition. All patients underwent sentinel lymph node (SLN) identification followed by a complete pelvic node and parametrial dissection. SLN were evaluated using our institutional protocol that included pathologic ultrastaging.

Results

SLN mapping was successful in 77 (95%) of 81 patients. A total of 316 SLN were identified, with a median of 3 SLN per patient (range, 0–10 SLN). The majority (85%) of SLN were located at three main sites: the external iliac (35%); internal iliac (30%); and obturator (20%). Positive lymph nodes (LN) were identified in 26 (32%) patients, including 21 patients with positive SLN. Fifteen of 21 patients (71%) had SLN metastasis detected on routine processing. SLN ultrastaging detected metastasis in an additional 6/21 patients (29%). Two patients had grossly positive LN at exploration, and mapping was abandoned. Three of 26 (12%) patients had successful SLN mapping; however, the SLN failed to identify the metastatic LN. Of these 3 false negative cases, 2 patients had a metastatic parametrial node as the only positive LN with multiple negative pelvic nodes including negative SLN. One patient with stage IA1 disease and lymphovascular invasion had unilateral SLN mapping and a metastatic common iliac LN identified on completion lymphadenectomy of the contralateral side that did not map. The 4 (5%) patients with unsuccessful mapping included 1 who had grossly positive nodes identified at the time of laparotomy; the remaining 3 occurred during each surgeon's initial SLN mapping learning phase.

Conclusion

SLN mapping in early-stage cervical carcinoma yields high detection rates. Ultrastaging improves micrometastasis detection. Parametrectomy and side-specific lymphadenectomy (in cases of failed mapping) remain important components of the surgical management of selected cases.

Research Highlights

- SNL mapping in early-stage cervical carcinoma yields high detection rates.
- Ultrastaging improves micrometastasis detection.
- SLN algorithm for operable early-stage cervical cancer.

Keywords
Keywords
Sentinel lymph nodes; Micrometastasis; Cervical cancer

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Currently at: Division of Gynecologic Oncology, Department of Obstetrics and Gynecology, Sylvester Comprehensive Cancer Center, University of Miami Miller School of Medicine, Miami, FL, USA.

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